

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	0	("de3117374").PN.	USPAT; USOCR	OR	OFF	2006/09/21 13:47
S2	2	("3117374").PN.	USPAT; USOCR	OR	OFF	2006/09/21 13:48
S3	2	("3117374").PN.	DERWENT	OR	OFF	2006/09/21 16:08
S4	396	fuel (animal fat)	US-PGPUB; USPAT; USOCR	WITH	ON	2006/09/22 08:23
S6	0	WO-0340268-\$.DID.	EPO; DERWENT	OR	OFF	2006/09/21 17:23
S7	0	WO-03040268-\$.DID.	EPO; DERWENT	OR	OFF	2006/09/21 17:23
S8	323	fuel (animal fat)	USPAT; USOCR	WITH	ON	2006/09/22 08:24
S9	92	fuel (animal fat)	EPO; JPO; DERWENT	WITH	ON	2006/09/22 08:24

## EAST Search History

S10	56	(US-20060201056-\$ or US-20060155138-\$ or US-20060107972-\$ or US-20060063242-\$ or US-20060063241-\$ or US-20060063118-\$ or US-20060059768-\$ or US-20060058403-\$ or US-20060053791-\$ or US-20060021277-\$ or US-20050232956-\$ or US-20060008887-\$ or US-20050268535-\$ or US-20050142250-\$ or US-20050223627-\$ or US-20050172546-\$ or US-20050160663-\$ or US-20050081436-\$ or US-20050120620-\$ or US-20050113467-\$ or US-20050108927-\$ or US-20050107624-\$ or US-20050020842-\$ or US-20050011112-\$ or US-20040231233-\$ or US-20040186307-\$).did. or (US-20030111410-\$ or US-20020189243-\$).did. or (US-6982155-\$ or US-6288251-\$ or US-6887283-\$ or US-6824682-\$ or US-6694928-\$ or US-5705722-\$ or US-5730029-\$ or US-5609768-\$ or US-5578090-\$ or US-5527449-\$ or US-5434279-\$ or US-5269939-\$ or US-4828577-\$ or US-4608120-\$ or US-4518458-\$ or US-RE31185-\$ or US-4013621-\$ or US-4013516-\$ or US-3950230-\$).did. or (US-2980519-\$ or US-2862976-\$ or US-2249675-\$).did. or (WO-2005017075-\$ or EP-1357277-\$ or EP-1241406-\$ or WO-2068565-\$).did. or (JP-2005325323-\$ or JP-04222311-\$).did.	US-PPGPUB; USPAT; USOCR; EPO; JPO	OR	OFF	2006/09/22 08:57
-----	----	---	--	----	-----	------------------

## EAST Search History

S11	57	(US-20060201056-\$ or US-20060155138-\$ or US-20060107972-\$ or US-20060063242-\$ or US-20060063241-\$ or US-20060063118-\$ or US-20060059768-\$ or US-20060058403-\$ or US-20060053791-\$ or US-20060021277-\$ or US-20050232956-\$ or US-20060008887-\$ or US-20050268535-\$ or US-20050142250-\$ or US-20050223627-\$ or US-20050172546-\$ or US-20050160663-\$ or US-20050081436-\$ or US-20050120620-\$ or US-20050113467-\$ or US-20050108927-\$ or US-20050107624-\$ or US-20050020842-\$ or US-20050011112-\$ or US-20040231233-\$ or US-20040186307-\$).did. or (US-20030111410-\$ or US-20020189243-\$).did. or (US-6982155-\$ or US-6288251-\$ or US-6887283-\$ or US-6824682-\$ or US-6694928-\$ or US-5705722-\$ or US-5730029-\$ or US-5609768-\$ or US-5578090-\$ or US-5527449-\$ or US-5434279-\$ or US-5269939-\$ or US-4828577-\$ or US-4608120-\$ or US-4518458-\$ or US-RE31185-\$ or US-4013621-\$ or US-4013516-\$ or US-3950230-\$).did. or (US-2980519-\$ or US-2862976-\$ or US-2249675-\$).did. or (WO-2005017075-\$ or EP-1357277-\$ or EP-1241406-\$ or WO-2068565-\$).did. or (JP-2005325323-\$ or JP-04222311-\$).did. AND vacuum	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	OFF	2006/09/22 09:58
S12	29	S10 vacuum	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	OFF	2006/09/22 10:29
S13	1	("7029506").PN.	USPAT; USOCR	OR	OFF	2006/09/22 10:09
S19	0	("10404409").PN.	US-PGPUB	OR	OFF	2006/09/22 10:12

## EAST Search History

S20	13	S10 vacuum esterification	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	OFF	2006/09/22 10:29
-----	----	---------------------------	---	-----	-----	------------------

## EAST Search History

S21	99	<p>(US-20040186307-\$ or          US-20050204612-\$ or          US-20020147356-\$ or          US-20050027137-\$ or          US-20050120621-\$ or          US-20060042158-\$ or          US-20020035282-\$ or          US-20030149289-\$ or          US-20050085653-\$ or          US-20050262760-\$ or          US-20040265343-\$ or          US-20030158074-\$ or          US-20060183184-\$ or          US-20030068428-\$ or          US-20060094890-\$ or          US-20030083514-\$).did. or          (US-6608222-\$ or US-4303590-\$ or          US-6965044-\$ or US-6277798-\$ or          US-6248910-\$ or US-5928696-\$ or          US-5495033-\$ or US-5703252-\$ or          US-5849939-\$ or US-5244925-\$ or          US-5399728-\$ or US-5627289-\$ or          US-5434279-\$ or US-6342208-\$ or          US-5336792-\$ or US-6306825-\$ or          US-6423363-\$ or US-6468968-\$ or          US-6251146-\$ or US-6258135-\$ or          US-6270538-\$ or US-6293977-\$ or          US-6129945-\$ or US-6399800-\$ or          US-4810726-\$ or US-5405980-\$).          did. or (US-5621148-\$ or          US-6277423-\$ or US-6448212-\$ or          US-6855838-\$ or US-6288251-\$ or          US-6441206-\$ or US-5476517-\$ or          US-5504162-\$ or US-4534981-\$ or          US-4582927-\$ or US-4762522-\$ or          US-4919923-\$ or US-6211390-\$ or          US-6399081-\$ or US-6464962-\$ or          US-4275011-\$ or US-5844111-\$ or          US-6300377-\$ or US-6441050-\$ or          US-5571935-\$ or US-6127561-\$ or          US-6177580-\$ or US-5371255-\$ or          US-5412127-\$ or US-6764708-\$ or          US-4371470-\$ or US-5066509-\$).          did. or (US-6325995-\$ or          US-5520708-\$ or US-5578090-\$ or          US-6293976-\$ or US-5525126-\$ or          US-6111120-\$ or US-5624883-\$ or          US-6090959-\$ or US-5399731-\$ or          US-6162483-\$ or US-4975090-\$ or          US-4897225-\$ or US-5736174-\$ or          US-5616735-\$ or US-5646311-\$ or          US-5670669-\$ or US-6359157-\$ or          US-6642399-\$ or US-5362894-\$ or          US-6290997-\$ or US-6291006-\$ or          US-6379737-\$ or US-6458746-\$ or          US-5492713-\$ or US-4432968-\$ or          US-5366753-\$ or US-5431949-\$)          did. or (US-5650157-\$ or          US-48000045-\$ or US-5550770-\$)       </p>	US-PGPUB; USPAT	OR	OFF	2006/09/22 11:32
10/12/2006 12:23:39 PM					Page 5	

## EAST Search History

S22	82	S21 and @ad<"20021108"	USPAT	OR	OFF	2006/09/22 13:11
S23	25	S21 and @ad<"20021108" and vacuum and esterification	USPAT	OR	OFF	2006/09/22 11:40

## EAST Search History

S24	99	(US-20040186307-\$ or US-20050204612-\$ or US-20020147356-\$ or US-20050027137-\$ or US-20050120621-\$ or US-20060042158-\$ or US-20020035282-\$ or US-20030149289-\$ or US-20050085653-\$ or US-20050262760-\$ or US-20040265343-\$ or US-20030158074-\$ or US-20060183184-\$ or US-20030068428-\$ or US-20060094890-\$ or US-20030083514-\$).did. or (US-6608222-\$ or US-4303590-\$ or US-6965044-\$ or US-6277798-\$ or US-6248910-\$ or US-5928696-\$ or US-5495033-\$ or US-5703252-\$ or US-5849939-\$ or US-5244925-\$ or US-5399728-\$ or US-5627289-\$ or US-5434279-\$ or US-6342208-\$ or US-5336792-\$ or US-6306825-\$ or US-6423363-\$ or US-6468968-\$ or US-6251146-\$ or US-6258135-\$ or US-6270538-\$ or US-6293977-\$ or US-6129945-\$ or US-6399800-\$ or US-4810726-\$ or US-5405980-\$). did. or (US-5621148-\$ or US-6277423-\$ or US-6448212-\$ or US-6855838-\$ or US-6288251-\$ or US-6441206-\$ or US-5476517-\$ or US-5504162-\$ or US-4534981-\$ or US-4582927-\$ or US-4762522-\$ or US-4919923-\$ or US-6211390-\$ or US-6399081-\$ or US-6464962-\$ or US-4275011-\$ or US-5844111-\$ or US-6300377-\$ or US-6441050-\$ or US-5571935-\$ or US-6127561-\$ or US-6177580-\$ or US-5371255-\$ or US-5412127-\$ or US-6764708-\$ or US-4371470-\$ or US-5066509-\$). did. or (US-6325995-\$ or US-5520708-\$ or US-5578090-\$ or US-6293976-\$ or US-5525126-\$ or US-6111120-\$ or US-5624883-\$ or US-6090959-\$ or US-5399731-\$ or US-6162483-\$ or US-4975090-\$ or US-4897225-\$ or US-5736174-\$ or US-5616735-\$ or US-5646311-\$ or US-5670669-\$ or US-6359157-\$ or US-6642399-\$ or US-5362894-\$ or US-6290997-\$ or US-6291006-\$ or US-6379737-\$ or US-6458746-\$ or US-5492713-\$ or US-4432968-\$ or	US-PGPUB; USPAT	OR	OFF	2006/09/22 13:11
10/12/2006 12:23:39 PM		US-5366753-\$ or US-5431949-\$ C:\Documents and Settings\mkrishnan\My Documents\EAST\Workspaces\Piacentini996.wsp did. or (US-5650157-\$ or US-4800045-\$ or US-5550220-\$			Page 7	

## EAST Search History

S25	34	S24 and vacuum and (reduced pressure)	USPAT	OR	ON	2006/09/25 11:18
S26	2	(("6028215") or ("6069261")).PN.	USPAT	OR	OFF	2006/09/22 14:09
S27	12893	((554/167,170,174) or (518/700, 713,714,717,718, 702ANDESTERIFICATIONANDVACUUM(reducedpressure)andcatalyst)).CCLS. or ("44").CLAS.	USPAT	OR	OFF	2006/09/22 14:17
S28	12893	((554/167,170,174) or (518/700, 713,714,717,718, 702ANDESTERIFICATIONANDCATA LYSTANDVACUUM)).CCLS. or ("44").CLAS.	USPAT	OR	OFF	2006/09/22 14:17
S29	385	((554/167,170,174) or (518/700, 713,714,717,718, 702ANDESTERIFICATIONANDCATA LYSTANDVACUUM)).CCLS.	USPAT	OR	OFF	2006/09/22 14:19
S30	385	((554/167,170,174) or (518/700, 713,714,717,718, 702ANDESTERIFICATIONANDCATA LYSTANDVACUUMVEGETABLEADJO ILANIMALADJFAT)).CCLS.	USPAT	OR	OFF	2006/09/22 14:20
S31	493	((44/308,306) or (554/167,170,174) or (518/700,713,714,717,718, 702ANDESTERIFICATIONANDCATA LYSTANDVACUUMVEGETABLEADJO ILANIMALADJFAT)).CCLS.	USPAT	OR	OFF	2006/09/22 16:24
S32	493	((44/308,306) or (554/167,170,174) or (518/700,713,714,717,718, 702ANDESTERIFICATIONANDCATA LYSTANDVACUUMVEGETABLEADJO ILANIMALADJFAT)).CCLS.	USPAT	OR	OFF	2006/09/25 08:00
S33	3	S32 ESTERIFICATION CATALYST VACUUM VEGETABLE ADJ OIL ANIMAL ADJ FAT	USPAT	AND	OFF	2006/09/22 16:26
S34	1917	((44/308,306) or (554/167,170,174) or (518/700,713,714,717,718,702)).CCLS.	USPAT	OR	OFF	2006/09/25 08:00
S37	1	S34 esterification (polyvalent adj alcohol)	USPAT	AND	OFF	2006/09/25 08:13
S39	124	S34 biodiesel or biofuel	USPAT	AND	OFF	2006/09/25 08:16
S40	16	S34 biodiesel or biofuel polyvalent	USPAT	AND	ON	2006/09/25 08:33
S41	0	S34 (biodiesel or biofuel) polyvalent	USPAT	AND	ON	2006/09/25 08:33
S42	2018	polyvalent alcohol	USPAT	ADJ	ON	2006/09/25 08:33
S43	317	S42 esterification	USPAT	AND	ON	2006/09/25 08:34
S44	138	S42 esterification vacuum	USPAT	AND	ON	2006/09/25 09:13

## EAST Search History

S46	7	S42 esterification vacuum (animal adj fat)	USPAT	AND	ON	2006/09/25 09:17
S47	6	(("2383601") or ("2415140") or ("4164506") or ("6013817")).PN.	USPAT; USOCR	OR	OFF	2006/09/25 09:34
S48	3	(("6069261") or ("6818026") or ("5399731")).PN.	USPAT; USOCR	OR	OFF	2006/09/25 10:07
S49	3	(("6028215") or ("6069261") or ("4491528")).PN.	USPAT; USOCR	OR	OFF	2006/09/25 10:07
S50	943	fuel and ((animal adj fat) (waste adj fat) (rendéring adj fat) (oil adj trap) (sewage adj plant) (fish adj oil))	USPAT	OR	ON	2006/09/25 13:22
S51	167	S50 esterification	USPAT	AND	ON	2006/09/25 13:22
S52	129	S51 catalyst	USPAT	AND	ON	2006/09/25 13:23
S53	19	S52 apparatus	USPAT	AND	ON	2006/09/25 14:00
S54	1	S52 apparatus countercurrent	USPAT	AND	ON	2006/09/25 15:31
S55	1155	(422/129,234).CCLS.	USPAT; USOCR	OR	OFF	2006/09/25 15:31
S56	14	S55 esterification	USPAT	AND	OFF	2006/09/25 15:40
S57	49	S55 countercurrent	USPAT	AND	OFF	2006/09/25 15:40
S58	11	S55 countercurrent vacuum	USPAT	AND	OFF	2006/09/26 10:56
S59	23	S55 countercurrent catalyst	USPAT	AND	OFF	2006/09/25 16:26
S60	0	wo-0005327-.did.	USPAT	AND	OFF	2006/09/25 16:32
S61	0	wo-0005327-A.did.	USPAT	AND	OFF	2006/09/25 16:32
S62	0	wo-0112581-.did.	USPAT	AND	OFF	2006/09/25 16:32
S63	2	(("6028215") or ("6069261")).PN.	USPAT; USOCR	OR	OFF	2006/09/26 09:55
S64	1155	(422/129,234).CCLS.	USPAT; USOCR	OR	OFF	2006/09/26 09:56
S65	0	S64 column catalyst spiral	USPAT; USOCR; EPO	AND	OFF	2006/09/26 09:56
S66	102	S64 column catalyst	USPAT; USOCR; EPO	AND	OFF	2006/09/26 09:56
S67	55	S64 column catalyst arrange\$4	USPAT; USOCR; EPO	AND	OFF	2006/09/26 10:22
S68	5	S64 column catalyst arrange\$4 esterification	USPAT; USOCR; EPO	AND	OFF	2006/09/26 09:57

## EAST Search History

S69	7	S64 column catalyst esterification	USPAT; USOCR; EPO	AND	OFF	2006/09/26 10:41
S70	2365	zinc catalyst (spiral or spinal)	USPAT; USOCR; EPO	AND	OFF	2006/09/26 10:51
S71	683	S70 (fatty adj acid)	USPAT; USOCR; EPO	AND	ON	2006/09/26 10:42
S72	117	S71 esterification	USPAT; USOCR; EPO	AND	ON	2006/09/26 10:43
S73	93	S72 (apparatus or device)	USPAT; USOCR; EPO	AND	ON	2006/09/26 10:44
S74	1919	((44/308,306) or (554/167,170,174) or (518/700,713,714,717,718,702)).CCLS.	USPAT	OR	OFF	2006/09/26 10:44
S76	0	S72 (44/308,306 554/167,170,174 518/700,713,714,717,718,702.ccls.)	USPAT; USOCR; EPO	AND	ON	2006/09/26 10:45
S77	7	S74 zinc catalyst (spiral or spinal)	USPAT; USOCR; EPO	AND	ON	2006/09/26 10:50
S79	1326	zinc catalyst spiral	USPAT; USOCR; EPO	AND	OFF	2006/09/26 10:52
S80	36	S79 (fatty adj acid) esterification	USPAT; USOCR; EPO	AND	OFF	2006/09/26 10:52
S81	7	S64 (counter with current) (vacuum or pump) bed	USPAT	AND	OFF	2006/09/27 14:24
S82	11	S64 (counter with current) (vacuum or pump) bed	USPAT; USOCR; EPO	AND	ON	2006/09/26 11:06
S83	0	fuel (animal adj fat) (apparatus or device) esterification (counter with current) (vacuum or pump) bed	USPAT; USOCR; EPO	AND	ON	2006/09/26 11:06
S84	2	fuel (animal adj fat) (apparatus or device) esterification (counter with current) (vacuum or pump)	USPAT; USOCR; EPO	AND	ON	2006/09/26 11:24
S85	9	(("5089404") or ("4698186") or ("3692822") or ("6211390") or ("4112235") or ("6013817") or ("5908946") or ("5424466") or ("5183930")).PN.	USPAT; USOCR	OR	OFF	2006/09/26 14:14

## EAST Search History

S86	72868	ester and (polyvalent polyol multivalent divalent) and alcohol	USPAT	OR	ON	2006/09/26 14:15
S87	13325	esterification and (polyvalent polyol multivalent divalent) and alcohol	USPAT	OR	ON	2006/09/26 14:15
S88	15171	esterification and (polyvalent polyol multivalent divalent)	USPAT	OR	ON	2006/09/26 14:15
S89	13325	esterification (polyvalent or polyol or multivalent or divalent) alcohol	USPAT	AND	ON	2006/09/26 14:16
S90	10181	esterification (polyvalent or polyol or multivalent) alcohol	USPAT	AND	ON	2006/09/26 14:16
S91	5434	esterification (polyvalent or polyol or multivalent) alcohol (fatty adj acid)	USPAT	AND	ON	2006/09/26 14:16
S92	246	esterification (polyvalent or polyol or multivalent) alcohol (fatty adj acid) (animal adj fat)	USPAT	AND	ON	2006/09/26 14:17
S93	88	esterification (polyvalent or polyol or multivalent) alcohol (fatty adj acid) (animal adj fat) reactor	USPAT	AND	ON	2006/09/26 14:18
S94	91	esterification (polyvalent or polyol or multivalent) (fatty adj acid) (animal adj fat) reactor	USPAT	AND	ON	2006/09/26 14:26
S97	67	esterification (polyvalent or polyol or multivalent) (fatty adj acid) (animal adj fat) (fuel or diesel)	USPAT	AND	ON	2006/09/26 14:32
S98	62	esterification (polyvalent or polyhydric or multivalent) (fatty adj acid) (animal adj fat) (fuel or diesel)	USPAT	AND	ON	2006/09/26 16:54
S99	1	("5157168").PN.	USPAT; USOCR	OR	OFF	2006/09/26 16:54
S100	1	("6224642").PN.	USPAT; USOCR	OR	OFF	2006/09/27 08:06
S101	1	("4491529").PN.	USPAT; USOCR	OR	OFF	2006/09/27 08:06
S102	1	("4491528").PN.	USPAT; USOCR	OR	OFF	2006/09/27 08:15
S103	807	esterification (polyvalent or polyhydric or multivalent or multihydric) (fatty adj acid adj ester) catalyst (vacuum or (reduced adj pressure))	USPAT; EPO; JPO; DERWENT	AND	ON	2006/09/27 08:17
S104	17	esterification (polyvalent or polyhydric or multivalent or multihydric) (fatty adj acid adj ester) catalyst (vacuum or (reduced adj pressure)) (counter adj current)	USPAT; EPO; JPO; DERWENT	AND	ON	2006/09/29 11:25

## EAST Search History

S10 5	536	esterification (counter adj current)	USPAT; EPO; JPO; DERWENT	AND	ON	2006/09/27 11:09
S10 6	370	esterification (counter adj current) (vacuum or (reduced adj pressure))	USPAT; EPO; JPO; DERWENT	AND	ON	2006/09/27 11:10
S10 7	18	esterification (counter adj current) (vacuum or (reduced adj pressure)) catalyst (fixed adj bed)	USPAT; EPO; JPO; DERWENT	AND	ON	2006/09/27 11:10
S10 8	1155	(422/129,234).CCLS.	USPAT; USOCR	OR	OFF	2006/09/27 14:24
S10 9	8	S108 (counter with current) (vacuum or pump) bed	USPAT; USOCR; EPO; JPO; DERWENT	AND	OFF	2006/09/27 14:26
S11 0	2	(("3960978") or ("4021502")).PN.	USPAT; USOCR	OR	OFF	2006/09/27 15:10
S11 1	1	("5157168").PN.	USPAT; USOCR	OR	OFF	2006/09/27 15:11
S11 2	3	(("4973681") or ("0792011")).PN.	USPAT; USOCR; EPO	OR	OFF	2006/09/27 15:13
S11 3	9	(("4973681") or ("0792011") or ("2843492")).PN.	USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/09/27 15:27
S11 4	302	esterification vacuum (fatty adj acid) fuel catalyst ((ethylene adj glycol) or glycerine)	USPAT; USOCR; EPO; JPO; DERWENT	AND	OFF	2006/09/28 08:48
S11 5	1	S114 (counter adj current)	USPAT; USOCR; EPO; JPO; DERWENT	AND	OFF	2006/09/28 08:19
S11 6	494	((44/308,306) or (554/167,170,174) or (518/700,713,714,717,718, 702)ANDESTERIFICATIONANDCATA LYSTANDVACUUMVEGETABLEADJO ILANIMALADJFAT)).CCLS.	USPAT	OR	OFF	2006/09/27 15:39
S11 7	3	esterification vacuum (fatty adj acid) fuel catalyst ((ethylene adj glycol) or glycerine) S116	USPAT; USOCR; EPO; JPO; DERWENT	AND	OFF	2006/09/27 15:39
S11 8	302	esterification vacuum (fatty adj acid) fuel catalyst ((ethylene adj glycol) or glycerine)	USPAT; USOCR; EPO; JPO; DERWENT	AND	OFF	2006/09/28 08:55

## EAST Search History

S11 9	2	S118 (counter with current)	USPAT; USOCR; EPO; JPO; DERWENT	AND	OFF	2006/09/28 08:19
S12 0	2	("3273981").PN.	USPAT; USOCR	OR	OFF	2006/09/28 08:49
S12 1	132	esterification vacuum (fatty adj acid) fuel catalyst ((ethylene adj glycol) or glycerine) NOT monohydric	USPAT; USOCR; EPO; JPO; DERWENT	AND	OFF	2006/09/28 10:47
S12 2	26	(counter with current) reactor (fatty adj acid adj ester) polyhydric	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/09/29 08:29
S12 3	6	(fatty adj acid adj ester) fuel (polyhydric same monohydric same advantage)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/09/29 08:40
S12 4	1	(fatty adj acid adj ester) fuel (polyhydric with advantage)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/09/29 08:41
S12 5	72	(animal adj fat) fuel (polyhydric adj alcohol)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/09/29 08:42
S12 6	14	(animal adj fat) fuel (polyhydric adj alcohol) (free adj fatty adj acid)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/09/29 09:35
S12 7	15	(("2268234") or ("2412633") or ("2564423") or ("2628941") or ("2671444") or ("2788326") or ("4505829") or ("2038355")).PN.	USPAT; USOCR	OR	OFF	2006/09/29 09:35
S12 8	3	(("3028215") or ("6069261") or ("2001042340")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/29 13:49
S12 9	1	de-10155241-\$ did.	EPO; DERWENT	OR	OFF	2006/09/29 13:56
S13 0	0	wo-00112581-\$ did.	EPO; DERWENT	OR	OFF	2006/09/29 13:57
S13 1	2	("5425497").PN.	USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/10/02 09:52

## EAST Search History

S13 2	419	(vacuum adj pump) (stripper or reactor) esterification	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/02 10:11
S13 4	39	(vacuum adj pump) (stripper or reactor) esterification fuel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/02 12:56
S13 5	1664	esterification (fatty adj acid) (glycerine or (ethylene adj glycol) or pentaerythritol or multihydric or multivalent) column vacuum catalyst	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/02 14:01
S13 6	75	S135 countercurrent	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 10:54
S13 7	1	("6620952").PN.	USPAT; USOCR	OR	OFF	2006/10/02 15:17
S13 8	1	("20060075680").PN.	US-PGPUB	OR	OFF	2006/10/02 15:17
S13 9	1667	esterification (fatty adj acid) (glycerine or (ethylene adj glycol) or pentaerythritol or multihydric or multivalent) column vacuum catalyst	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 15:51
S14 0	8	S139 (neutral adj catalyst)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 10:56
S14 1	0	((neutral adj catalyst) same advantage)(fatty adj acid) esterificaton	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 10:57
S14 2	0	(neutral adj catalyst)(fatty adj acid) esterificaton column fuel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 10:58
S14 3	0	(neutral adj catalyst)(fatty adj acid) esterificaton column	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 10:58
S14 4	1	(neutral adj catalyst)(fatty adj acid) esterificaton	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 10:58

## EAST Search History

S14 5	19	(catalyst not charge)(fatty adj acid) esterificaton	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 11:36
S14 6	1	("6812359").PN.	USPAT; USOCR	OR	OFF	2006/10/03 11:37
S14 7	1	("5536856").PN.	USPAT; USOCR	OR	OFF	2006/10/03 11:58
S14 8	1	("5157168").PN.	USPAT; USOCR	OR	OFF	2006/10/03 12:34
S14 9	1	("4973681").PN.	USPAT; USOCR	OR	OFF	2006/10/03 14:38
S15 1	963	esterification (fatty adj acid adj ester) (citric adj acid) catalyst	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 14:39
S15 2	5	S151 remove remnants	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 14:40
S15 3	246	S151 column washing	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 14:41
S15 4	19	S153 fuel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 14:44
S15 5	59	((citric adj acid) with washing) esterification (fatty adj acid) catalyst	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 14:58
S15 6	1	("6069261").PN.	USPAT; USOCR	OR	OFF	2006/10/03 15:33
S15 7	2	S155 neutralize	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 15:33
S15 8	1667	esterification (fatty adj acid) (glycerine or (ethylene adj glycol) or pentaerythritol or multihydric or multivalent) column vacuum catalyst	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 08:59
S15 9	114	S158 diesel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 15:52

## EAST Search History

S16 0	0	S159 CHP	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 15:52
S16 1	84	S159 engine	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/03 15:52
S16 2	55	(US-20060155138-\$ or US-20060058403-\$ or US-20060063118-\$ or US-20060059768-\$ or US-20050172546-\$ or US-20050160663-\$ or US-20050268535-\$ or US-20050223627-\$ or US-20050120620-\$ or US-20050142250-\$ or US-20050113467-\$ or US-20050108927-\$ or US-20040231233-\$ or US-20020189243-\$).did. or (US-6982155-\$ or US-6887283-\$ or US-6288251-\$ or US-6824682-\$ or US-5578090-\$ or US-5434279-\$ or US-5609768-\$ or US-5527449-\$ or US-5525126-\$ or US-5269939-\$ or US-4828577-\$ or US-RE31185-\$ or US-4013621-\$ or US-4013516-\$ or US-3950230-\$ or US-5399731-\$ or US-6028215-\$ or US-6927299-\$ or US-6069261-\$ or US-6818026-\$ or US-6147196-\$ or US-5908946-\$ or US-6616909-\$ or US-6316646-\$ or US-6046263-\$ or US-4491528-\$). did. or (US-5277878-\$ or US-5157168-\$ or US-5167937-\$ or US-5008088-\$ or US-5880072-\$ or US-5055571-\$).did. or (US-2980519-\$ or US-2862976-\$ or US-2249675-\$).did. or (WO-2005017075-\$ or EP-1357277-\$ or WO-2068565-\$ or EP-1241406-\$).did. or (JP-2005325323-\$ or JP-04222311-\$).did.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2006/10/03 16:33
S16 3	18	S162 (engine or diesel)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/04 08:05

## EAST Search History

S16 4	0	cogeneration biodiesel engine power (fatty adj acid)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/04 08:05
S16 7	1	S166 biodiesel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/04 08:06
S16 8	10	S166 biofuel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/04 08:16
S16 9	10	combustible power and heat	USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2006/10/04 08:54
S17 0	0	S166 (animal adj fat)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/04 08:54
S17 1	2044	cogeneration @ad<"20011109"	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/04 08:57
S17 2	1144	S171 fuel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/04 09:06
S17 3	1	S172 fat vegetable animal	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/04 08:58
S17 4	4	S172 fat	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/04 08:58
S17 5	190	S172 diesel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/04 09:17
S17 6	0	S175 fats	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/04 09:17
S17 7	6	S175 animal	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/04 12:33

## EAST Search History

S17 8	0	jp-4787709-\$ did.	JPO	AND	ON	2006/10/04 12:33
S17 9	0	jp-47087709-\$ did.	JPO	AND	ON	2006/10/04 12:33
S18 0	0	jp-04787709-\$ did.	JPO	AND	ON	2006/10/04 12:33
S18 1	944	fuel and ((animal adj fat) (waste adj fat) (rendering adj fat) (oil adj trap) (sewage adj plant) (fish adj oil))	USPAT	OR	ON	2006/10/05 08:58
S18 2	167	S181 esterification	USPAT	AND	ON	2006/10/05 08:58
S18 3	129	S182 catalyst	USPAT	AND	ON	2006/10/05 08:58
S18 5	1667	esterification (fatty adj acid) (glycerine or (ethylene adj glycol) or pentaerythritol or multihydric or multivalent) column vacuum catalyst	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 08:59
S18 6	28	S185 spiral	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 09:04
S18 7	0	S185 (catalyst with spiral)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 09:04
S18 8	0	S185 (catalyst near spiral)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 09:04
S18 9	2	S185 (catalyst same spiral)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 09:06
S19 0	0	esterification (fatty adj acid) (spiral near catalyst) (animal adj fat) column	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 09:07
S19 1	0	esterification (fatty adj acid) (spiral near catalyst)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 09:07
S19 2	16	esterification (fatty adj acid) (spiral same catalyst)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 09:09

## EAST Search History

S19 3	18	esterification (zinc same spiral) catalyst	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 09:13
S19 4	4	esterification (catalyst near (spiral or heli\$4 or coil or curl)) (fatty adj acid)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 09:26
S19 5	9	esterification (catalyst near (spiral or heli\$4 or coil or curl))	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 09:26
S19 6	1	cogeneration biodiesel engine power	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 12:13
S19 7	22	NOORDEN.in.	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 09:55
S19 8	23	generation power diesel engine biofuel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 10:31
S19 9	6	(cogeneration or co-generation) diesel engine biofuel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 10:42
S20 0	1	("6187939").PN.	USPAT; USOCR	OR	OFF	2006/10/05 10:42
S20 1	10	cogeneration (biofuel or biodiesel)	USPAT; USOCR	AND	ON	2006/10/05 12:37
S20 2	118	piacentini.in. niesner.in.	USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/10/05 12:40
S20 3	2833	piacentini, aldo.in.	USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/10/05 12:40
S20 4	2	piacentini-aldo.in.	USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/10/05 12:43
S20 5	2	niesner-rene.in.	USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/10/05 12:44

## EAST Search History

S20 6	1	catalyst (spiral or helical or helix or curl or coil) shape	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2006/10/05 14:37
S20 7	1225	catalyst (spiral or helical or helix or curl or coil) shape	USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/10/05 13:41
S20 8	15	S207 esterif\$7	USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/10/05 13:42
S21 0	422	esterification catalyst (fatty adj acid) (animal adj fat)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 08:36
S21 1	2	S210 (catalyst near arrange\$4)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 08:37
S21 2	1231	diesel engine (vegetable adj oil)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 14:55
S21 3	7	S212 cogeneration	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 14:57
S21 4	6	S213 (biofuel or biodiesel)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 15:05
S21 5	61	S212 (biodiesel or biofuel)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 15:07
S21 6	3	S215 (generat\$3 near (heat or power))	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/05 15:08
S21 7	422	esterification catalyst (fatty adj acid) (animal adj fat)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 08:38
S21 8	60	S217 (coil\$3 or curl\$3 or spiral)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 08:55

## EAST Search History

S21 9	0	S218 (catalyst near (coil\$3 or curl\$3 or spiral))	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 08:56
S22 0	8	S218 (catalyst same coil)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 09:03
S22 1	546	esterification catalyst (spiral or shape or arrange\$4)	USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/10/06 09:04
S22 2	25	esterification catalyst (spiral or shape or arrange\$4)	USPAT; USOCR; EPO; JPO; DERWENT	WITH	ON	2006/10/06 10:41
S22 3	0	(neutralized adj fat) (cogeneration or (diesel adj engine) or (combined adj heat))	USPAT; USOCR; EPO; JPO; DERWENT	WITH	ON	2006/10/06 10:42
S22 4	1	("5908946").PN.	USPAT; USOCR	OR	OFF	2006/10/06 11:26
S22 5	2	(("5008046") or ("5525126")).PN.	USPAT; USOCR	OR	OFF	2006/10/06 11:56
S22 6	159	cogeneration (diesel adj engine)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 11:56
S22 7	2	S226 fats	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 11:58
S22 8	10	(("2510572") or ("2847825") or ("4472935") or ("4854853") or ("4907406") or ("4916904") or ("5088450") or ("6439682")).PN.	USPAT; USOCR	OR	OFF	2006/10/06 12:02
S22 9	641	(60/645,670).CCLS.	USPAT; USOCR	OR	OFF	2006/10/06 12:03
S23 1	15	S229 cogeneration	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 12:06
S23 3	0	S229 (biofuel or biodiesel)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 12:05

## EAST Search History

S23 4	14	S231 fuel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 12:06
S23 6	7	S235 fuel fat	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 12:17
S23 7	10	S235 biofuel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 12:20
S23 8	1	S235 biodiesel	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 12:20
S23 9	4	(("4275311") or ("4527071") or ("4503337") or ("4752697")).PN.	USPAT; USOCR	OR	OFF	2006/10/06 14:09
S24 0	0	biodiesel (reuse or recycle) heat engine	USPAT; USOCR; EPO; JPO; DERWENT	WITH	ON	2006/10/06 14:10
S24 1	0	biodiesel (reuse or recycle) heat engine	USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/10/06 14:10
S24 2	9	biodiesel (reuse or recycle) heat engine	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 15:06
S24 3	11	(("3326956") or ("4339546") or ("4705673") or ("4919912") or ("5427762") or ("5861051") or ("6114400") or ("6133328") or ("6299774") or ("6340581")).PN.	USPAT; USOCR	OR	OFF	2006/10/06 14:20
S24 4	0	biodiesel ((reuse or recycle) with heat) engine	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 15:07
S24 5	1	biodiesel ((reuse or recycle) with heat)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 15:07
S24 6	566	diesel ((reuse or recycle) with heat)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 15:07

## EAST Search History

S24 7	1	S246 (combined adj heat near power)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 15:09
S24 8	255	S246 engine	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 15:09
S24 9	16	S248 ester	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 15:55
S25 0	119	esterification catalyst (surface adj area)	USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/10/06 15:56
S25 1	9	S250 (fatty adj acid)	USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/10/06 15:58
S25 2	2	S250 arrangement	USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/10/06 16:00
S25 3	8	S250 (zinc or Zn)	USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/10/06 16:13
S25 4	1	S253 wire	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/06 16:00
S25 5	0	S250 (zinc or Zn) wire	USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/10/06 16:13
S25 6	181	esterification catalyst wire	USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/10/06 16:13
S25 7	10	esterification catalyst wire	USPAT; USOCR; EPO; JPO; DERWENT	WITH	ON	2006/10/06 16:24
S25 8	10	esterification catalyst shape	USPAT; USOCR; EPO; JPO; DERWENT	WITH	ON	2006/10/10 08:01

## EAST Search History

S25 9	5811	metal catalyst esterification	USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/10/10 08:03
S26 0	1555	metal catalyst esterification	USPAT; USOCR; EPO; JPO; DERWENT	WITH	ON	2006/10/10 08:03
S26 1	28	metal catalyst esterification	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2006/10/10 08:09
S26 2	0	metal catalyst esterification wire	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2006/10/10 08:09
S26 3	94	metal catalyst esterification wire	USPAT; USOCR; EPO; JPO; DERWENT	SAME	ON	2006/10/10 08:43
S26 4	21	S263 (fatty adj acid)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/10 08:16
S26 5	314	metal catalyst esterification zinc	USPAT; USOCR; EPO; JPO; DERWENT	WITH	ON	2006/10/10 08:36
S26 6	0	S265 wire	USPAT; USOCR; EPO; JPO; DERWENT	WITH	ON	2006/10/10 08:36
S26 7	22	S265 wire	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/10 08:36
S26 8	1178	wire metal catalyst	USPAT; USOCR; EPO; JPO; DERWENT	WITH	ON	2006/10/10 08:43
S26 9	82	wire metal catalyst (coil\$3 or spiral or wound)	USPAT; USOCR; EPO; JPO; DERWENT	WITH	ON	2006/10/10 10:49
S27 0	0	S269 esterification	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/10 10:38

## EAST Search History

S27 1	0	S269 (fatty adj acid)	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/10 10:39
S27 2	2	S269 ester	USPAT; USOCR; EPO; JPO; DERWENT	AND	ON	2006/10/10 10:39
S27 3	1	("4289657").PN.	USPAT; USOCR	OR	OFF	2006/10/10 10:49